

REMARKS

I. Status of Specification and Claims

In the specification, paragraph [0028] has been amended to correct minor editorial problems and to reflect the axial relationship between the large and small tows, as clearly shown in FIGS. 1-5. Paragraph [0035] has been amended to correct minor editorial problems.

Claims 1-30 are pending. Claims 29 and 39 are new. Favorable reconsideration of the claims is respectfully requested in light of the following remarks. Applicant requests withdrawal of the outstanding rejection, and allowance of the claims.

Independent claims 1 and 15 now recite embodiments where the first tows and the second tows are in a coplanar relationship. No new matter has been added and support for such amendment is found in the Figures and in the specification at least at paragraph [0028]. Applicant submits that such amendment is being made in response to the Examiner's comments and that no additional searching of the invention as now claimed is needed.

The dependent method claims 16-18, 21 and 24-28 have been amended to correct minor typographical errors so that they now depend from the independent method claim 15.

New claims 29 and 30 depend from claims 1 and 15, respectively, and recite an embodiment where the first tows are intermittently spaced between the second tows. Support for these claims is found in the specification at paragraph [0030] and in the Figures.

Applicant respectfully requests that these amendments be entered.

II. Rejection of claims 1-28 under 35 U.S.C. §103(a)

In the Office Action the Examiner rejected claims 1-28 under 35 U.S.C. §103(a) over the Bompard et al. U.S. Patent No. 5,484,642 in view of the Vane U.S. Patent No. 5,445,693.

Applicant contends that all the claims are patentable over the Bompard and Vane references and requests withdrawal of the rejection under 35 U.S.C. §103(a)

The Bompard '642 reference shows a woven laminate consisting of several layers of two-dimensional plain weave fabric that have been impregnated with a resin system. Fig 5, relied on by the Examiner, is discussed in Bompard, at column 6, lines 38-44, and clearly shows that:

“...unit threads are placed in a stack of conventional fabrics. The material shown comprises two layers 41, 42 consisting of traditional fabrics respectively comprising interlaced threads 41a, 41b, 42a, 42b...units threads 43 are arranged between the fabrics 41, 42...” [Emphasis added].

The Bompard fabric shown in Fig. 5 does not have coaxially aligned fibers. Attached hereto is a marked-up copy of the Bompard Fig. 5 showing the non-axial relationship of the fibers. Because of the non-axial configuration, all of the fibers contained in the Bompard fabric are necessarily crimped.

The MPEP, at § 2143.01, states that “[I]t is well-established that, in determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

The MPEP, at § 2143.03, also states that “[T]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)”.

There is nothing in the Bompard reference that teaches or suggests that the first and second rows are in a co-axially aligned, or planar, relationship. Rather, the Bompard Figure 5 clearly teaches away from the present invention by showing traditional fabrics with non-aligned fibers.

Attached hereto is marked-up copy of the Bompard Figure 5 showing the non-axial alignment of the first tows 43 and the second tows. Also attached hereto

are copies of Figures 1 and 2 in the instant application with the axes of the large and small rows drawn in so that the coplanar relationship can be readily seen. A comparison between the Bompard Figure 5 and the Figures in the instant application clearly shows the differences in the alignment of the tows in the different fabrics. Therefore, for at least this reason, independent claims 1 and 15 are patentable over the Bompard reference.

There is no motivation to modify the Bompard reference with the same size fibers of the Vane reference to meet the invention recited in claims 1-30. The Vane reference shows yarns or tows having the same denier (fiber diameter).

There is nothing in the Vane reference that would give the artisan any reason to change the diameter of the fibers to have a yield (i.e., greater diameter) greater than a second set of tows.

Accordingly, Applicant requests withdrawal of the rejection under 35 U.S.C. §103(a).

Claims 1-14 and 16-30 are dependent claims and are allowable over the Bompard and Vane references for at least the reasons set forth above.

Another reason claim 3 is further patentably distinct is that neither the Bompard nor Vane reference suggests a "crimp-free" fabric. The "crimp-free" feature of claim 3 provides much more than a "mere change in the size of the component", as asserted by the Examiner. In the present invention, it is the variation in the co-axially aligned sizes of the rows and the alternating of the different-sized rows which helps provide the novel, "non-crimping" feature to the fabric. The present fabric is a "corrugated" fabric which is essentially crimp-free as a result of spacing small tows 6 between large tows 4, as clearly stated in paragraph [0034]. The corrugated, or wavy and uneven, surface of the fabric provides the channels in the fabric.

Therefore, claim 3 is also separately patentable over the Bompard and Vane references. Accordingly, Applicant requests withdrawal of the rejection of the claims under 35 U.S.C. §103.

New claims 29 and 30 depend from claims 1 and 15, respectively, and recite an embodiment where the first tows are intermittently spaced between the second tows. The new claims 29 and 30 are also patently distinct and present no

further requirement for additional searching. Therefore, entry and allowance of these claims is respectfully requested.

III. Conclusion

In view of the above amendments to the claims and the remarks herein, it is submitted that the specification, drawings and claims are in proper form.

Claims 1 - 30 are in proper form for allowance; and, the invention, as defined in the claims, is neither disclosed nor suggested by the references of record. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of record, and allowance of all claims.